

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Main Ditch

Waterbody Segment at a Glance:

County: Butler
Nearby Cities: Poplar Bluff
Length of impairment: 5 miles
Pollutants: Biochemical Oxygen Demand (BOD) and Volatile Suspended Solids (VSS)
Source: Poplar Bluff WWTP



State map showing location of watershed

Note: The following changes have been proposed for the 2002 303(d) list: length of impairment 4.0 to 5.0 miles, pollutant Low DO dropped, BOD and VSS added as pollutants

TMDL Priority Ranking: Medium

Description of the Problem

Beneficial uses of Main Ditch

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption
- Irrigation

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

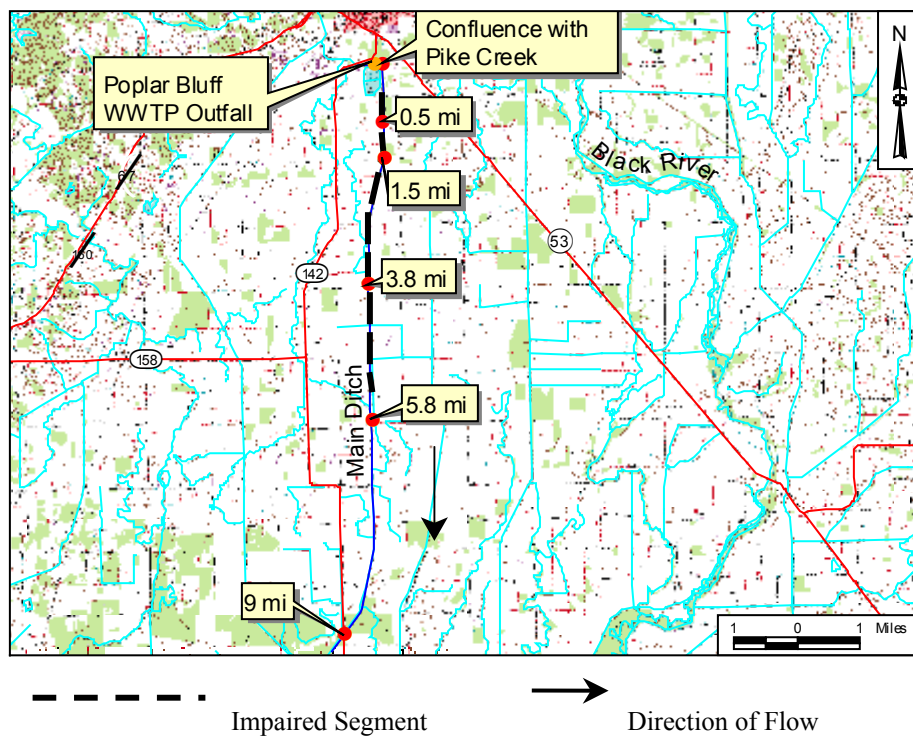
- The Missouri Water Quality Standard, found in 10 CSR 20-7.031 Table A, for dissolved oxygen (related to BOD) in streams is 5.0 mg/L (milligrams per liter or parts per million).
- The standards for volatile suspended solids (VSS) may be found in the general criteria section of the WQS at 10 CSR 20-7.031(3)(A) and (C). Here it states:
 - Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.

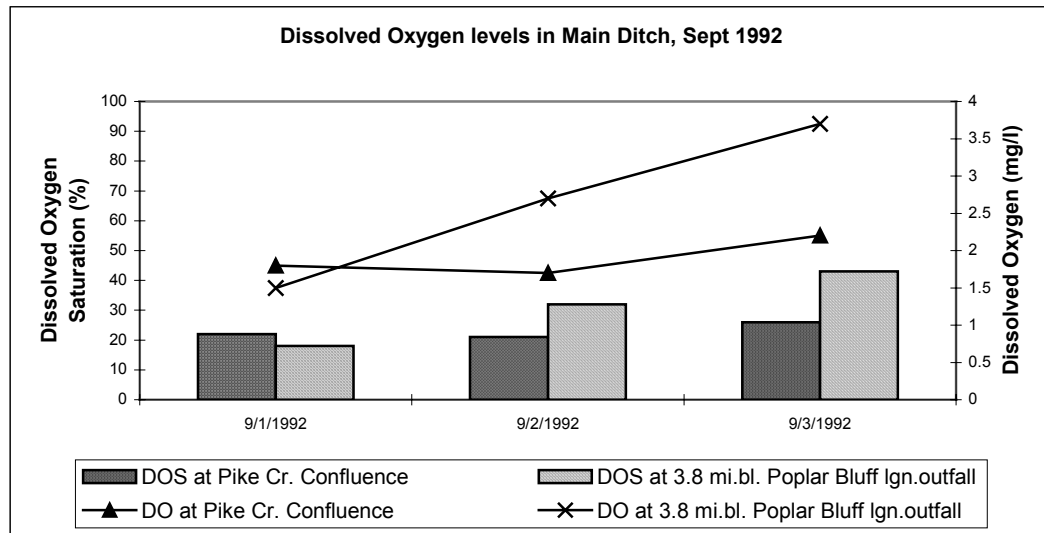
- Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

Any waterbody that was listed for Non-Filterable Residue (NFR) in 1998 is now being listed as Volatile Suspended Solids (VSS). VSS are organic solids coming from wastewater treatment plants. The new listing gives a clearer picture of the specific pollutants affecting the water.

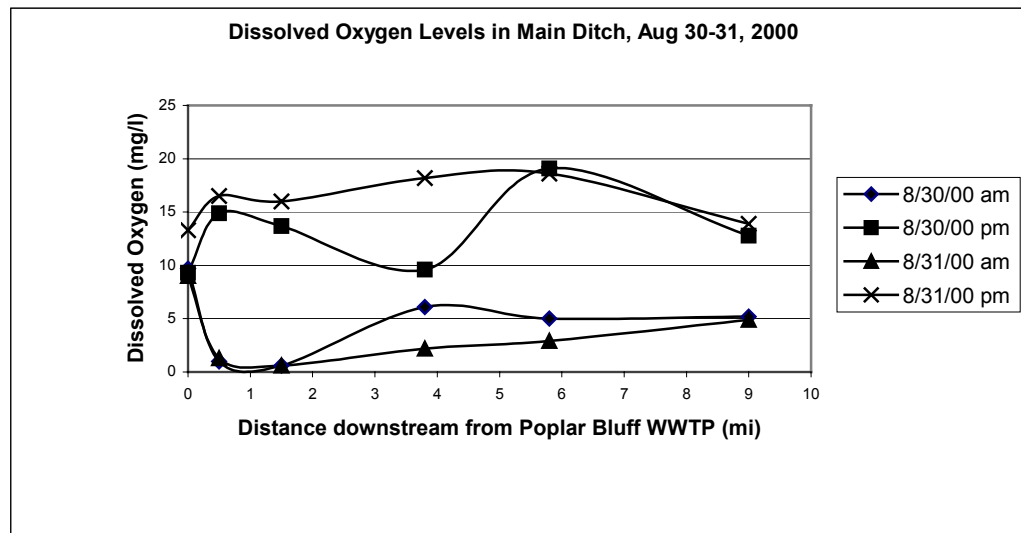
Main Ditch begins where Pike Creek drops off the Ozark Plateau and becomes a “bootheel” ditch. In 1988, three wastewater treatment lagoons serving Poplar Bluff were combined into one, which currently receives all the city’s wastewater, empties into Pike Creek and subsequently, Main Ditch. As a result of this wastewater discharge, Biochemical Oxygen Demand (BOD) is causing dissolved oxygen levels in Main Ditch to be much lower than state water quality standards allow. The Department of Natural Resources performed water quality studies in Main Ditch in 1992 and 2000 and information from them is summarized below. Additional water quality studies on Main Ditch are scheduled for 2001 and should assist in determining wastewater treatment levels needed to meet state water quality standards.

Map of Main Ditch with Sampling Sites

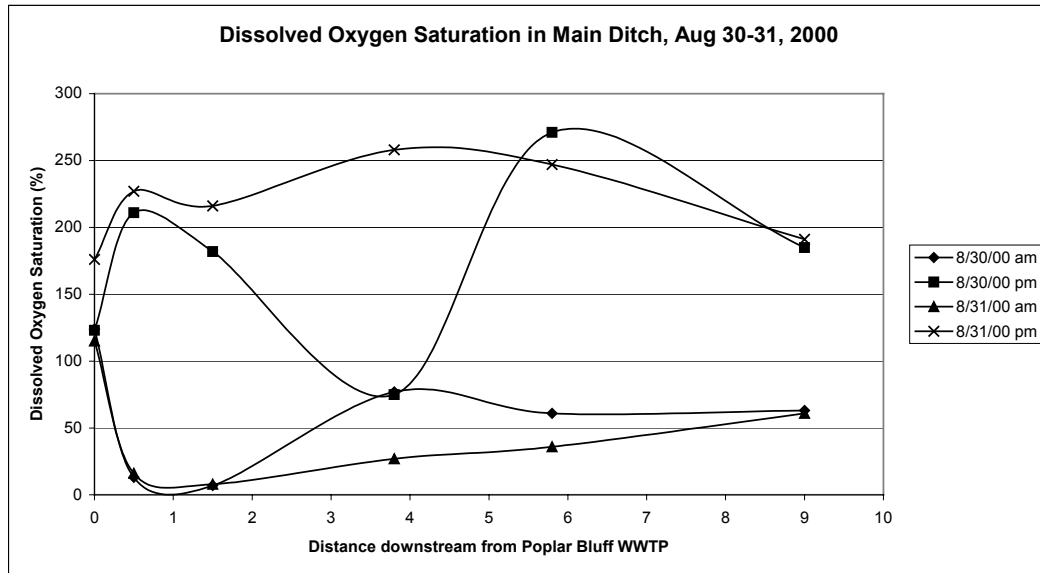




Source: Missouri Department of Natural Resources



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For more information call or write:

Missouri Department of Natural Resources

Water Pollution Control Program

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